

I claim:

1. an electronic device for acquiring, storing, and displaying data comprising:

a control unit comprising:

- 5 a processor having a read only memory for storing processor instructions, a random access memory for storing data, and having a plurality of data output channels;
- a plurality of sensor inputs for accepting data signals;
- a plurality of push buttons electrically coupled to the processor for configuring a plurality of user-configurable parameters;
- a visual display having an input coupled to a data output channel from the processor for displaying data in a graphical format and operator interface menus;
- 10 a speaker electrically connected to the processor alarm output for producing an audible alarm;
- a real-time clock for timing intervals between data samples and time-stamping the samples; and
- a serial port for transmitting and receiving data to and from
- 20 a remote device; and
- a plurality of data sensors responsive to a measurable variable, said sensors each having an output representative of said physical variable coupled to a one of the sensor inputs of said control unit.
- 25 2. An electronic device for acquiring, storing, and displaying data as claimed in claim 1 wherein said user-configurable

parameters include data sampling intervals, display ranges, high and low alarm values, display intervals, and sensor types.

3. An electronic device for acquiring, storing, and displaying data as claimed in claim 1 wherein said control unit further
5 comprises at least one alarm output for triggering a remote alarm.

4. An electronic device for acquiring, storing, and displaying data as claimed in claim 3 wherein said alarm output is activated responsive to at least one user-configured alarm value.

5. An electronic device for acquiring, storing, and displaying data as claimed in claim 1 wherein said control unit further comprises a power management system whereupon operating power is supplied to said plurality of sensors only at predetermined data sampling intervals.

6. An electronic device for acquiring, storing and displaying data as claimed in claim 1 wherein the visual display is capable of displaying historical data supplied by said plurality of data sensors responsive to a push button being selected.

7. An electronic device for acquiring, storing and displaying data as claimed in claim 1 wherein said control unit further comprises an output port for transmitting and receiving data to and from a remote device.

8. An electronic device for acquiring, storing and displaying data as claimed in claim 1 wherein the display graphically
25 represents a plurality of data values in each display column.

9. An electronic device for acquiring, storing and displaying data as claimed in claim 1 wherein the display graphically represents data supplied by any one of said plurality of data sensors responsive to a push button selection.

5 10. An electronic device for acquiring, storing and displaying data as claimed in claim 1 wherein the display graphically represents a statistical value of a plurality of data samples taken from said plurality of sensors in each display interval.

11. An electronic device for acquiring, storing, and displaying data comprising:

a control unit comprising:

a processor having a read only memory for storing processor instructions, a random access memory for storing data, and having a plurality of data output channels;

a plurality of sensor inputs for accepting data signals;

a plurality of push buttons electrically coupled to the processor for configuring a plurality of user-configurable parameters;

a visual display having a plurality of data inputs coupled to the plurality of data output channels from the processor for displaying a plurality of data sets in a graphical format, the data set displayed being responsive to a push button selection;

a speaker electrically connected to the processor alarm output for producing an audible alarm;

a real-time clock for timing intervals between data samples and time-stamping the samples; and

a serial port for transmitting and receiving data to and from
a remote device; and

a plurality of data sensors responsive to a measurable variable,
said sensors each having an output representative of said
5 physical variable coupled to a one of the sensor inputs of
said control unit.

12. An electronic device for acquiring, storing, and displaying
data as claimed in claim 10 wherein said user-configurable
parameters include data sampling intervals, display ranges, high
and low alarm values, display intervals, and sensor types.

13. An electronic device for acquiring, storing, and displaying
data as claimed in claim 10 wherein said control unit further
comprises at least one alarm output for triggering a remote
alarm.

14. An electronic device for acquiring, storing, and displaying
data as claimed in claim 12 wherein said alarm output is
activated responsive to at least one user-configured alarm
value.

15. An electronic device for acquiring, storing, and displaying
20 data as claimed in claim 10 wherein said control unit further
comprises a power management system whereupon operating power is
supplied to said plurality of sensors only at predetermined data
sampling intervals.

16. An electronic device for acquiring, storing and displaying
25 data as claimed in claim 10 wherein the visual display is
capable of displaying historical data supplied by said plurality
of data sensors responsive to a push button being selected.

17. An electronic device for acquiring, storing and displaying data as claimed in claim 10 wherein said control unit further comprises an output port for transmitting and receiving data to and from a remote device.

5 18. An electronic device for acquiring, storing and displaying data as claimed in claim 10 wherein the display graphically represents a plurality of data values in each display column.

19. An electronic device for acquiring, storing and displaying data as claimed in claim 10 wherein the display graphically represents data supplied by any one of said plurality of data sensors responsive to a push button selection.

20. An electronic device for acquiring, storing and displaying data as claimed in claim 11 wherein the display graphically represents a statistical value of a plurality of data samples taken from said plurality of sensors in each display interval.